

REMARKS

Request for Extension of Time

Applicants respectfully request that the shortened statutory period set to expire on December 27, 2004, be extended by three months to expire on March 27, 2005.

Request for Correction of Inventorship Pursuant to 37 C.F.R. § 1.48(b)

Pursuant to 37 C.F.R. § 1.48(b), the undersigned requests deletion of James A. Grob and William C. Carlson as named inventors in the subject application. The undersigned requests deletion of these named inventors because their invention is no longer claimed in the subject application. The fee under 37 C.F.R. § 1.17(i) is enclosed herewith.

Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 27-40 are rejected under 35 U.S.C. § 112, first paragraph. In accordance with the request made by the Examiner on July 15, 2004, applicants submit herewith the Declaration by inventors Timmis, Toland, and Ghermay setting forth facts that establish that a correlation between spectral data and embryo quality can be established as recited in Claims 27-40 and confirming that Claims 27-40 comply with 35 U.S.C. § 112, first paragraph.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 27-40 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicants regard as the invention. The Examiner's Action asserts that the claims do not distinctly point out and particularly claim the subject matter that applicants regard as their invention because the intended scope of "quantifiable characteristics" is unclear. For the following reasons, applicants respectfully traverse this rejection.

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The Examiner's Action appears to reject Claims 27-40 on the basis that these claims do not claim the subject matter that applicants regard as their invention. Applicants respectfully disagree. Claim 27, from which the balance of Claims 28-40 depend, recites:

27. A method for classifying plant embryos according to their quantifiable characteristics comprising:

- (a) developing a classification model by
 - (i) acquiring absorption, transmittance or reflectance spectral raw data of reference samples of plant embryos or any portion thereof of known quantifiable characteristics;
 - (ii) performing a data analysis by applying one or more classification algorithms to the spectral raw data, the data analysis resulting in development of a classification model for classifying plant embryos by their quantifiable characteristics;
- (b) acquiring absorption, transmittance or reflectance spectral raw data of a plant embryo or any portion thereof of unknown quantifiable characteristics; and
- (c) applying the developed classification model to the spectral raw data of step (b) in order to classify the plant embryo of unknown quantifiable characteristics according to its presumed quantifiable characteristics.

As detailed in the present specification at page 7, lines 23-24, quantifiable characteristics are "any embryo quality that is amenable to characterization." Specific examples of quantifiable characteristics include conversion potential, resistance to pathogens, drought resistance, heat and cold resistance, salt tolerance, preference for light quality, suitability for long-term storage or any

other plant quality susceptible to quantification. See page 7, line 28-page 8, line 2. While the foregoing are examples of quantifiable characteristics as recited in Claims 27-40, applicants' method, as recited in Claim 27, is not limited to such specific quantifiable characteristics. It is not applicants' intent that Claim 27 be limited to specific quantifiable characteristics. Thus, applicants assert that Claims 27-40 do claim the subject matter that applicants regard as their invention. Accordingly, the rejection of Claims 27-40 under 35 U.S.C. § 112, second paragraph, is improper.

Focusing more specifically on dependent Claims 34 and 35, these dependent claims more specifically define the quantifiable characteristics and therefore, more narrowly define the subject matter that applicants regard as their invention. Finally, turning to new Claim 41, like Claims 34 and 35, new Claim 41 more narrowly defines the quantifiable characteristics recited in Claim 27. The narrower scope of Claims 34, 35, and new Claim 41 is further evidence of applicants' intent that their invention as recited in Claim 27 not be limited to specific quantifiable characteristics.

For the foregoing reasons, applicants assert that the rejection of Claims 27-40 under 35 U.S.C. § 112, second paragraph, is improper and respectfully request its withdrawal.

Rejection Under 35 U.S.C. §§ 102/103

The Examiner's Action refers to Claims 1-13 as being rejected under 35 U.S.C. § 102 and, in the alternative, 35 U.S.C. § 103 as anticipated by or obvious over Chi et al. and/or Vits et al. Applicants believe that the Examiner inadvertently referred to Claims 1-13 and, in fact, intended to refer to Claims 27-40. Accordingly, our discussion below moves forward on the assumption that Claims 27-40 were rejected as being anticipated or obvious over Chi et al. and/or Vits et al. For the following reasons, applicants respectfully traverse these rejections.

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Turning to the rejection of Claims 27-40 under 35 U.S.C. § 102(b) over Chi et al. and/or Vits et al. Claims 27-40 recite a method for classifying plant embryos that includes a step of acquiring absorption, transmittance, or reflectance spectral raw data of reference samples and acquiring absorption, transmittance, or reflectance spectral raw data of plant embryo of unknown quantifiable characteristics. The Examiner's Action asserts that both Chi et al. and Vits et al. teach collecting spectral data. Applicants have carefully reviewed both Chi et al. and Vits et al. and have been unable to locate passages that disclose the use of spectral data. In view of the lack of teaching in Chi et al. and Vits et al. of the use of spectral data, the subject matter of Claims 27-40 is novel over Chi et al. and Vits et al.

The Examiner's Action also asserts that the subject matter of Claims 27-40 is obvious in view of Chi et al. and/or Vits et al. Applicants assert that the subject matter of Claims 27-40 is not *prima facie* obvious in view of Chi et al. and Vits et al. because neither reference suggests the use of absorption, transmittance, or reflectance spectral raw data to develop a method for classifying plant embryos as recited in the rejected claims.

Both Chi et al. and Vits et al. use image data to monitor changes in morphological features of somatic embryos. Chi et al. and Vits et al. do not teach or suggest the use of spectral data to develop a method to classify embryos.

For the foregoing reasons, applicants assert that the subject matter of Claims 27-40 is novel and unobvious over Chi et al. and Vits et al.

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If the reviewing party has any questions regarding the above, he is invited to call applicants' attorney at the number listed below so that any outstanding issues can be resolved in a timely and efficient manner.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the below date.

Date: MARCH 15, 2005 Shannon Lih

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